

FIG. 1

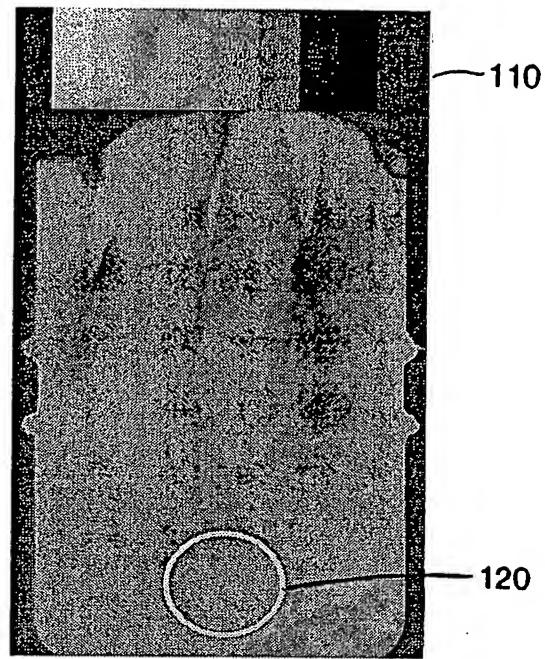


FIG. 2

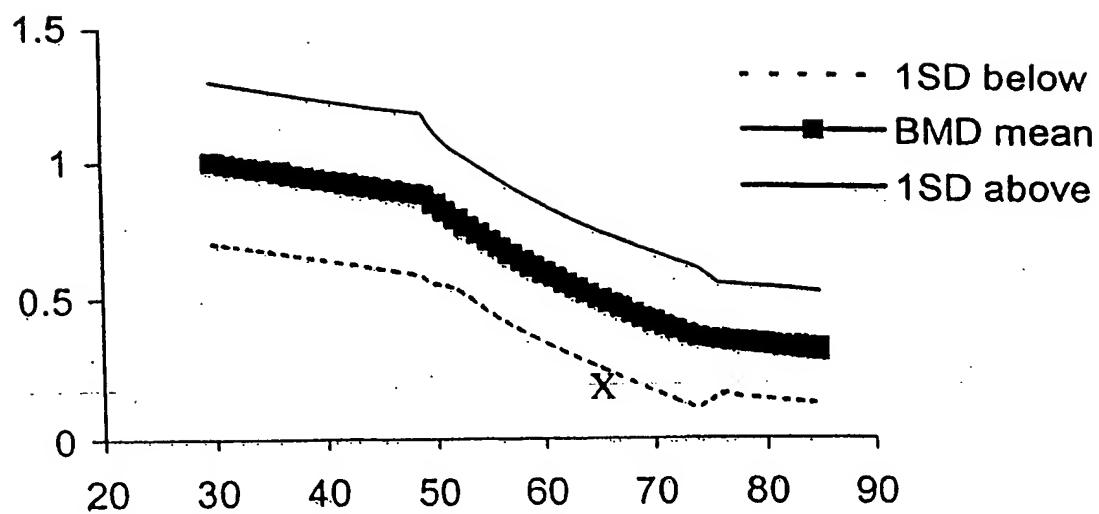


FIG. 3

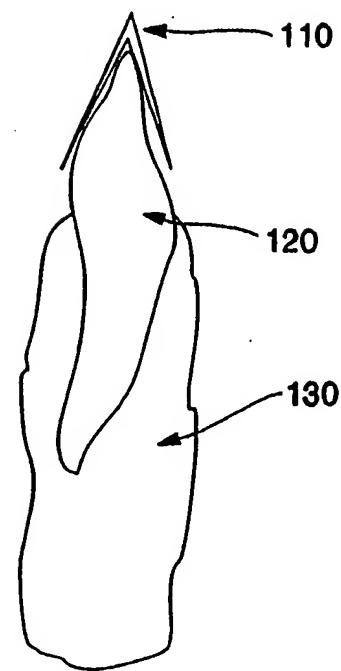


FIG. 4

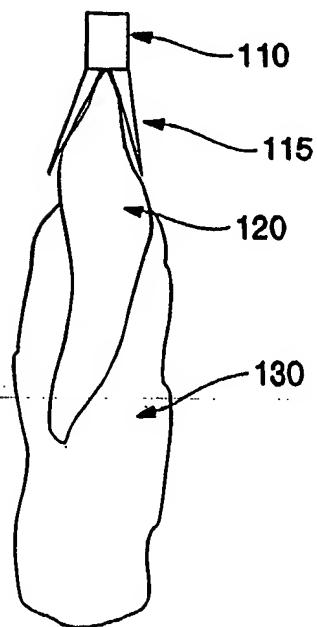


FIG. 5

FIG. 6B

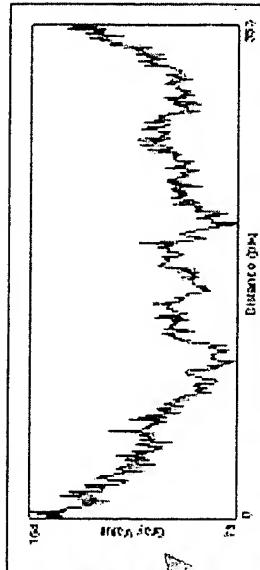


FIG. 6C

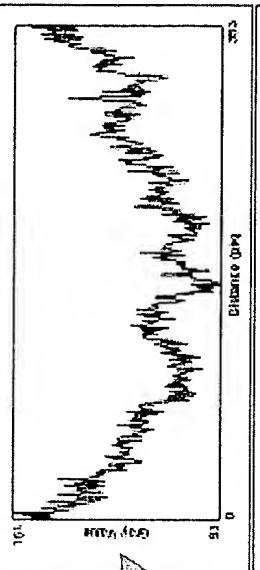


FIG. 6D

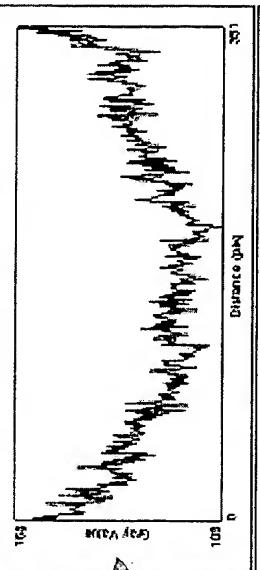


FIG. 6E

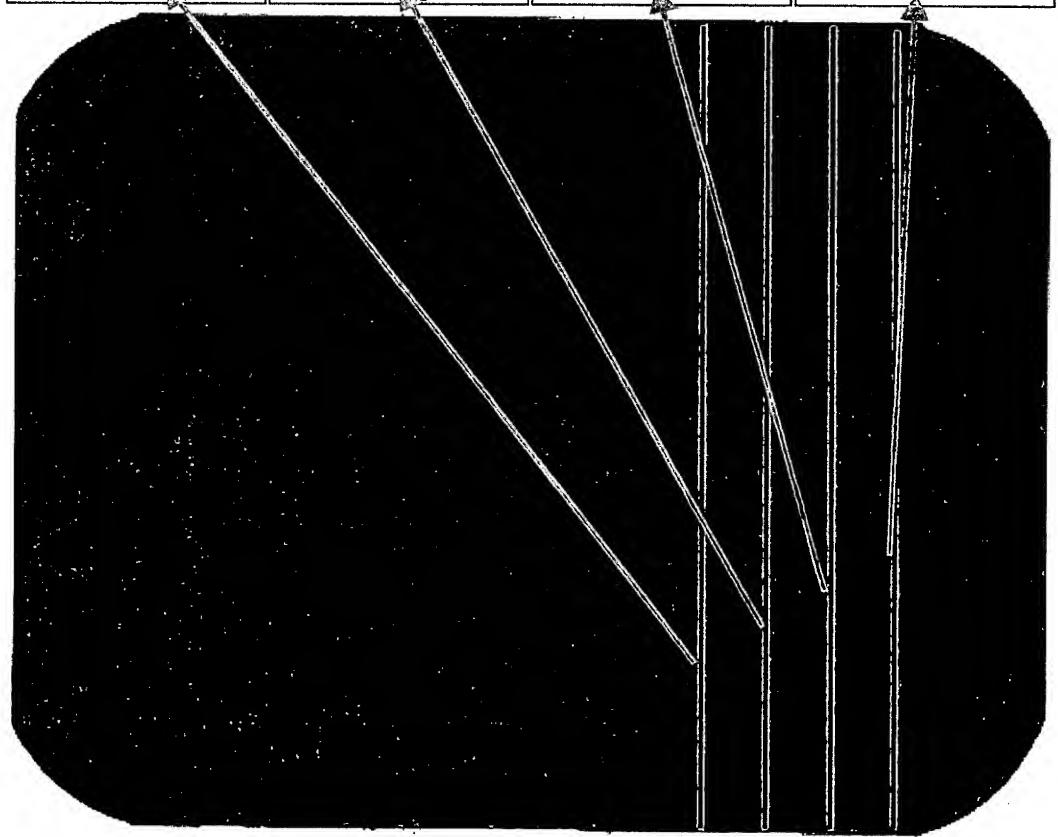
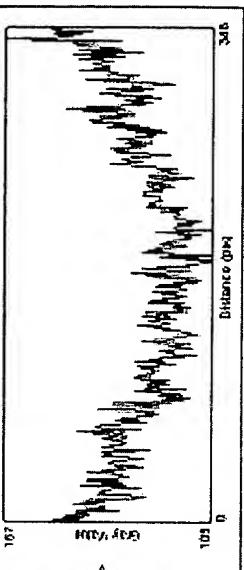


FIG. 6A



FIG. 7A

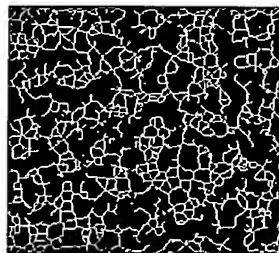


FIG. 7B

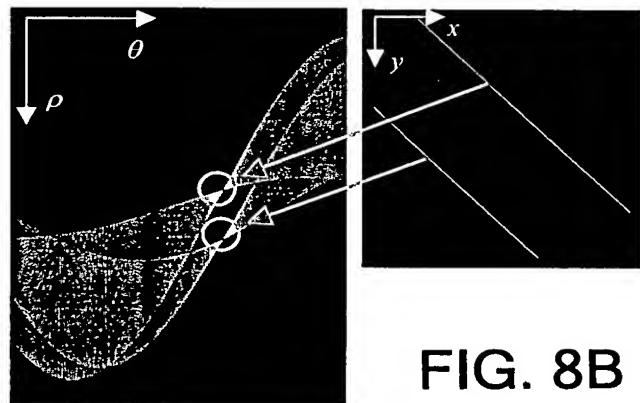


FIG. 8A

FIG. 8B

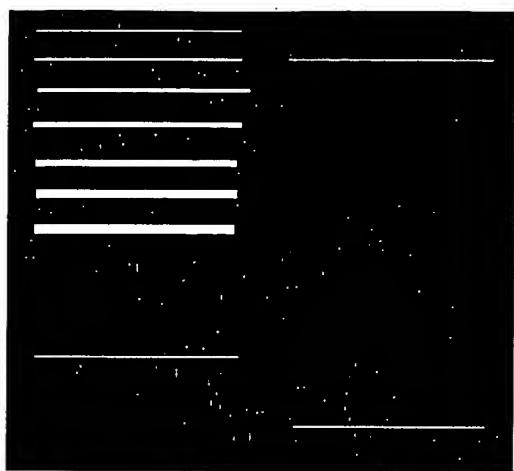


FIG. 9

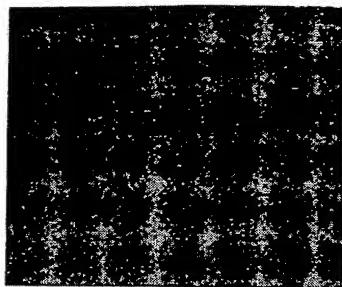


FIG. 10A

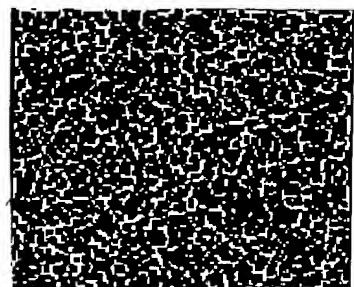


FIG. 10B

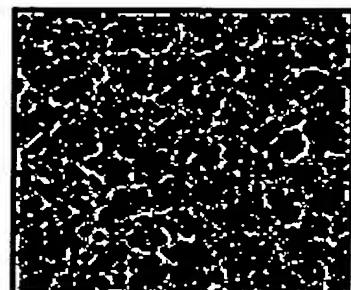


FIG. 10C

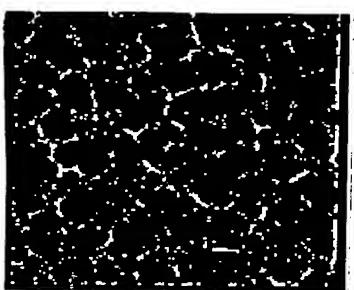


FIG. 10D

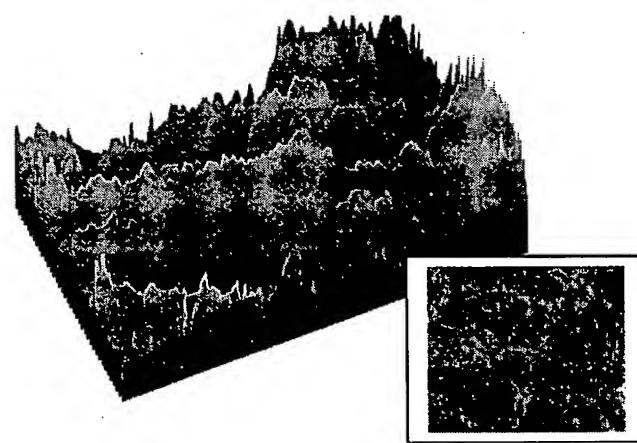


FIG. 11

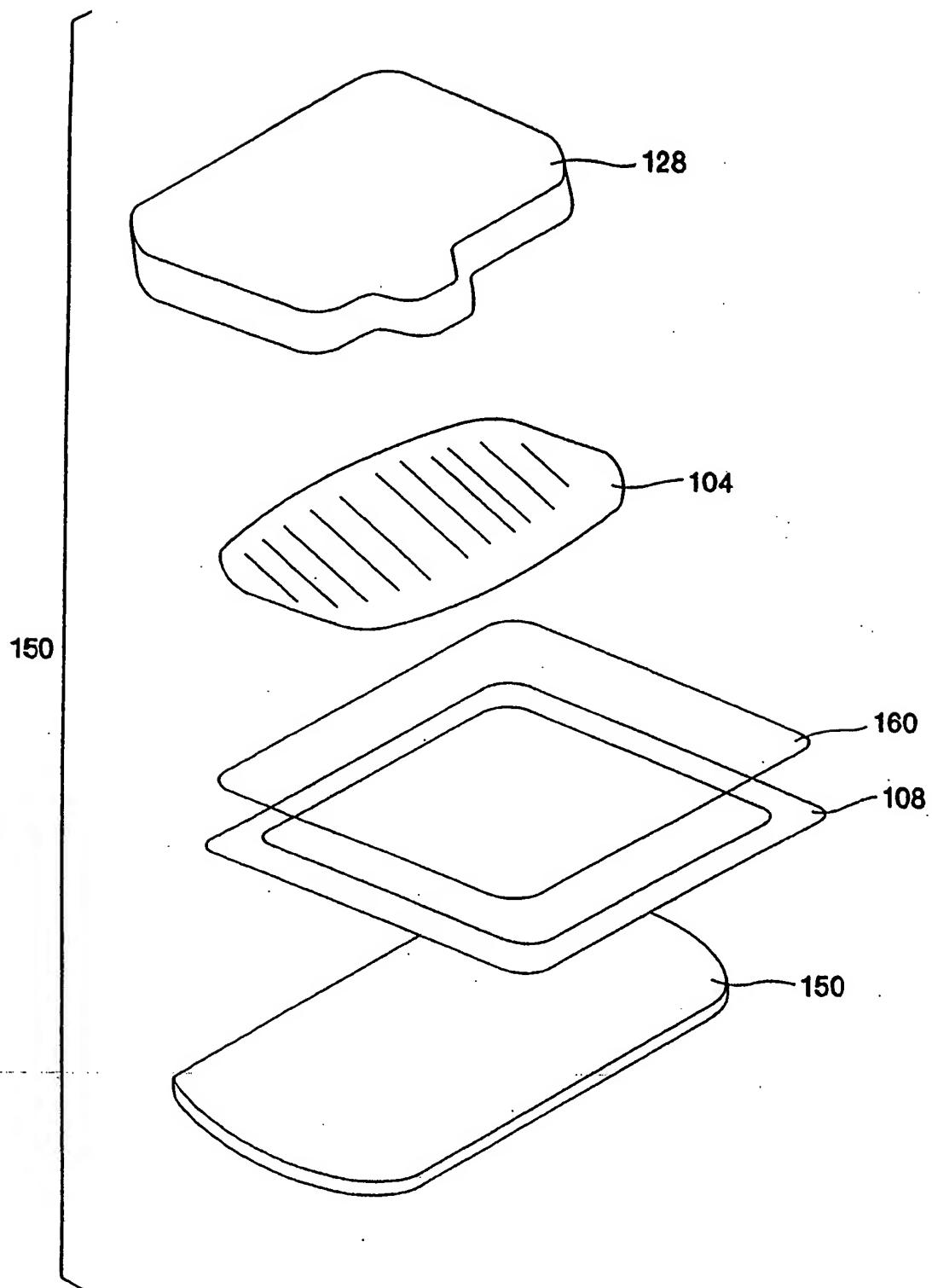


FIG. 12

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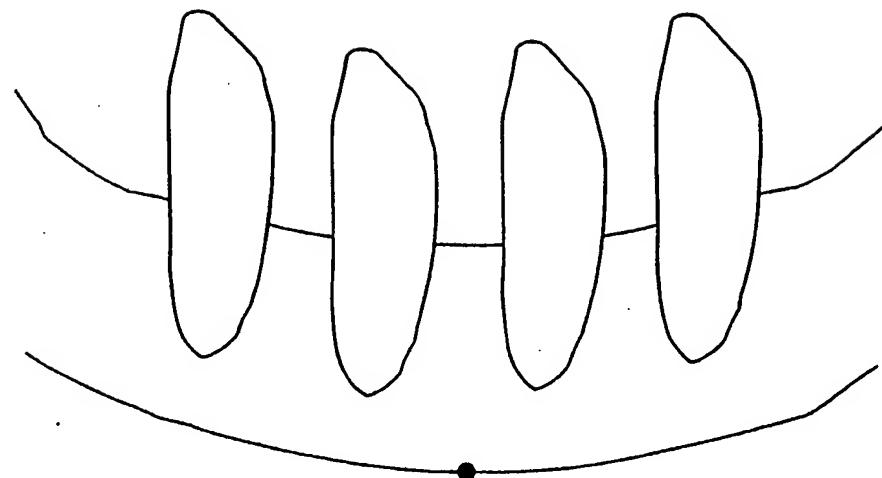


FIG. 13

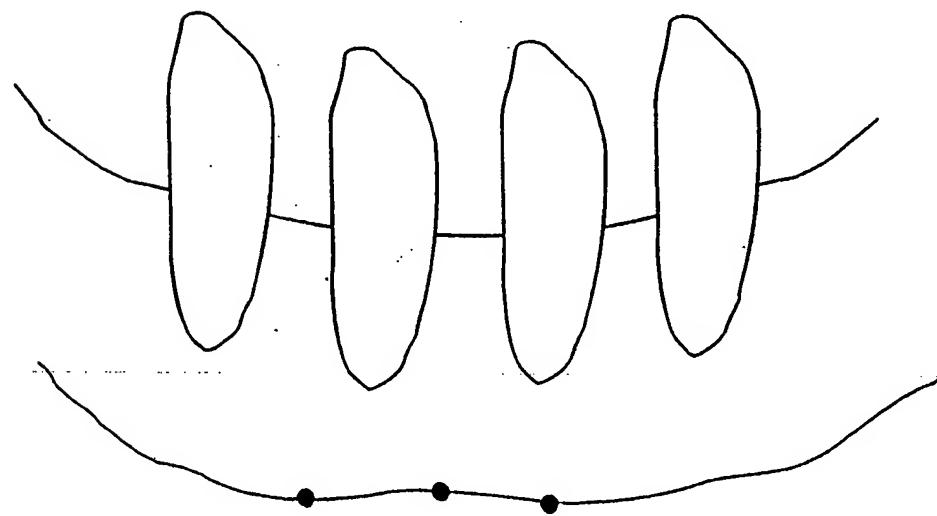


FIG. 14

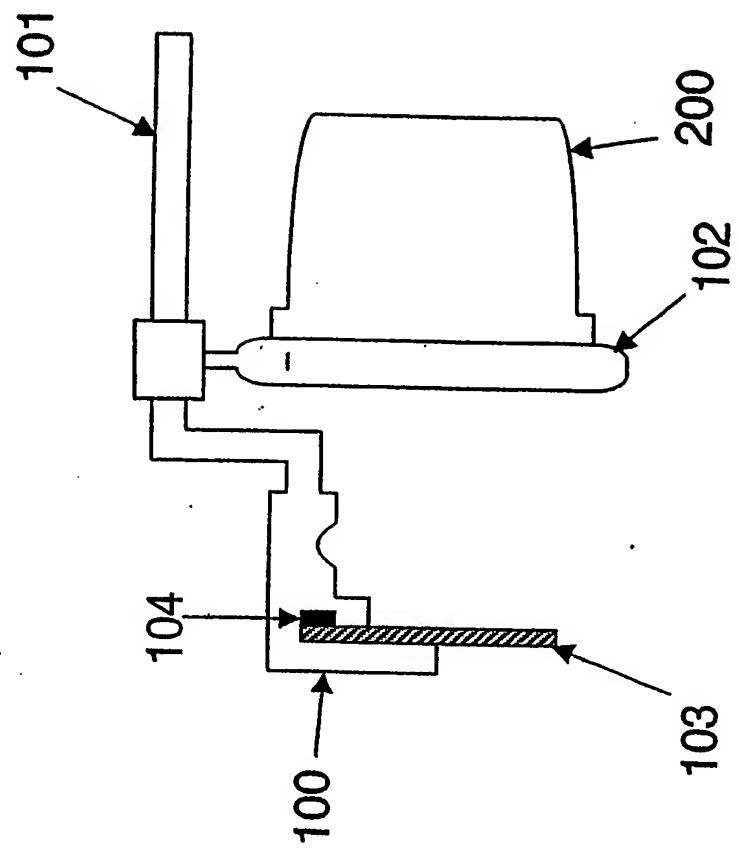
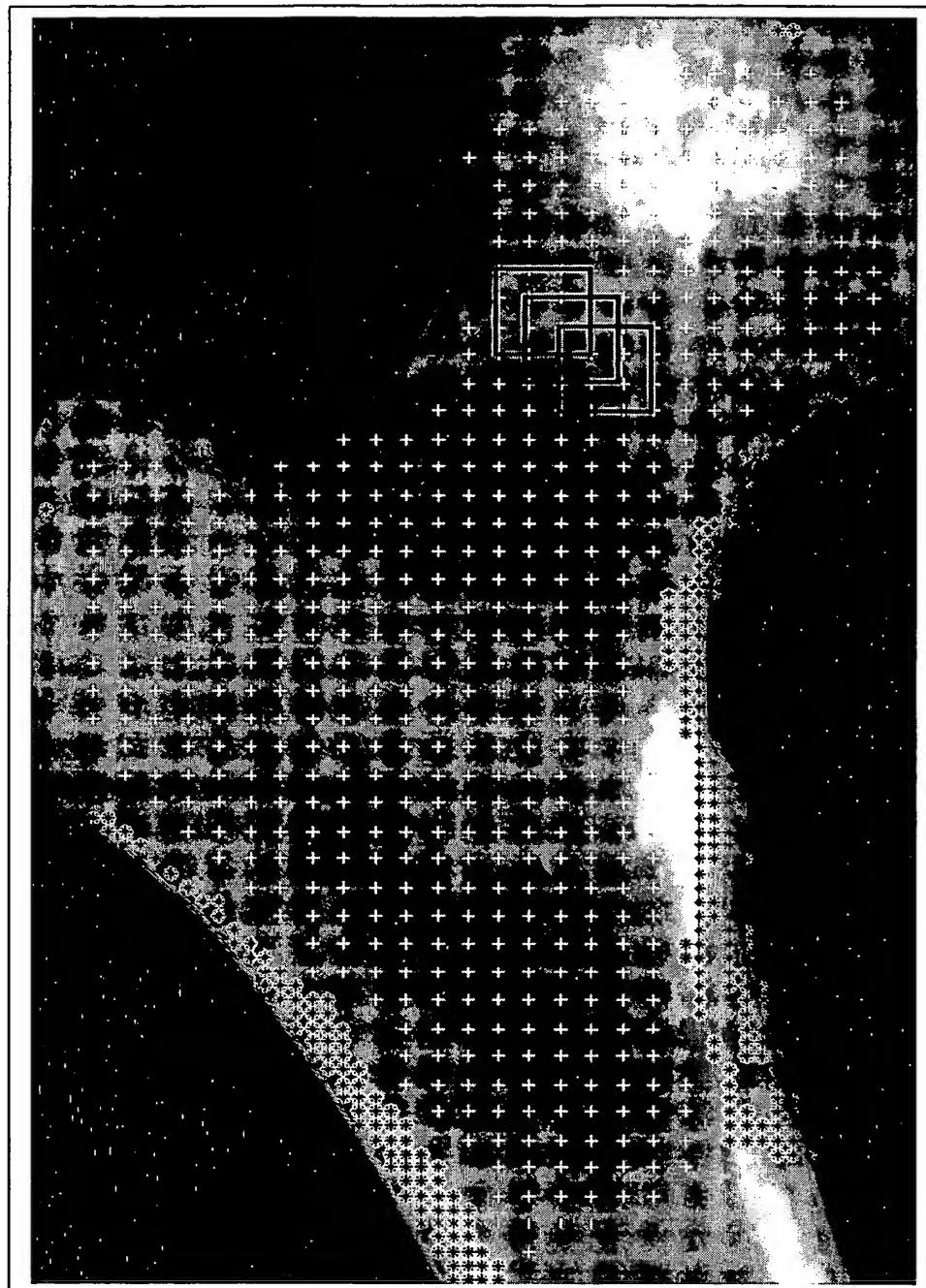
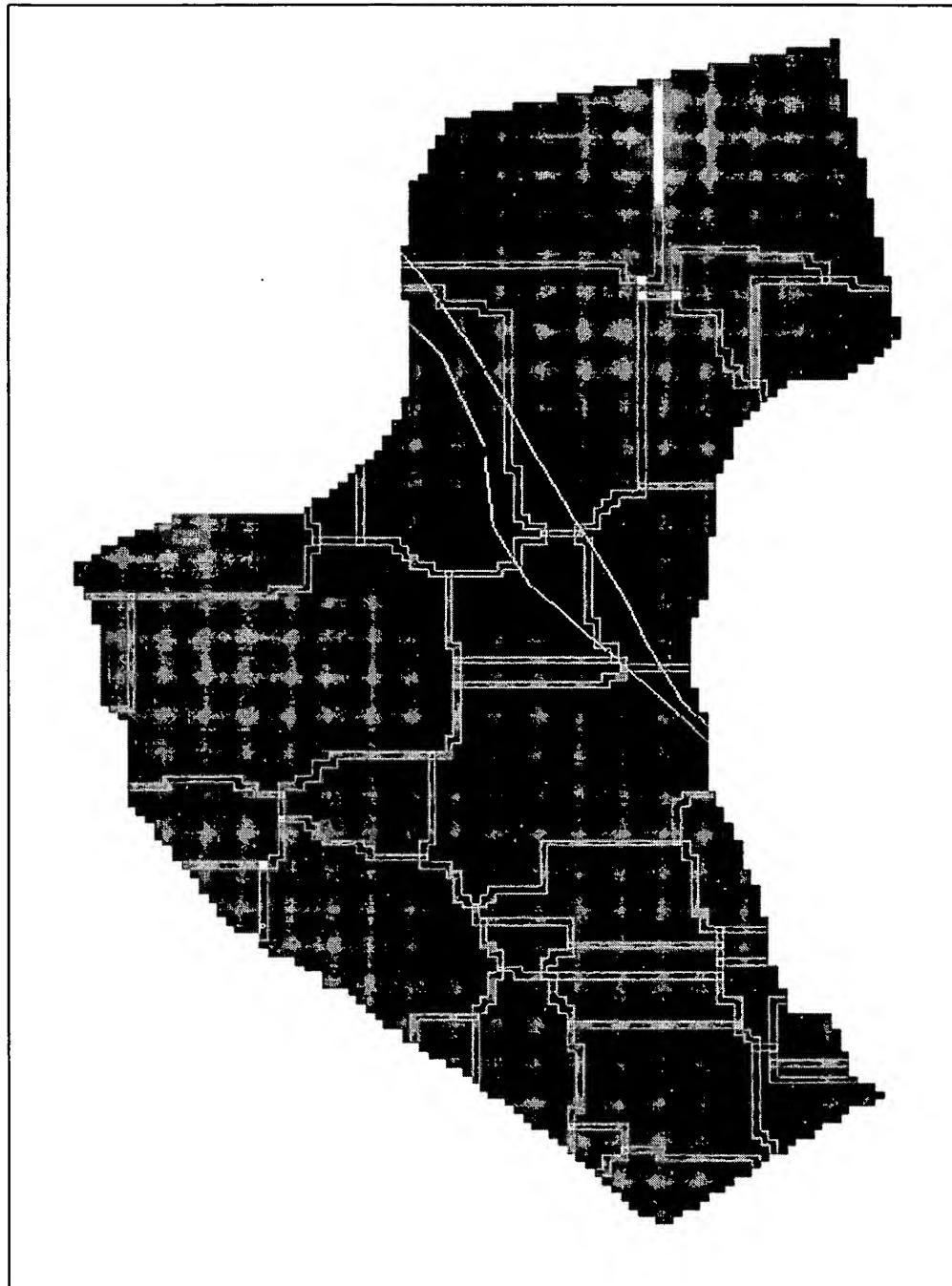


FIG. 15



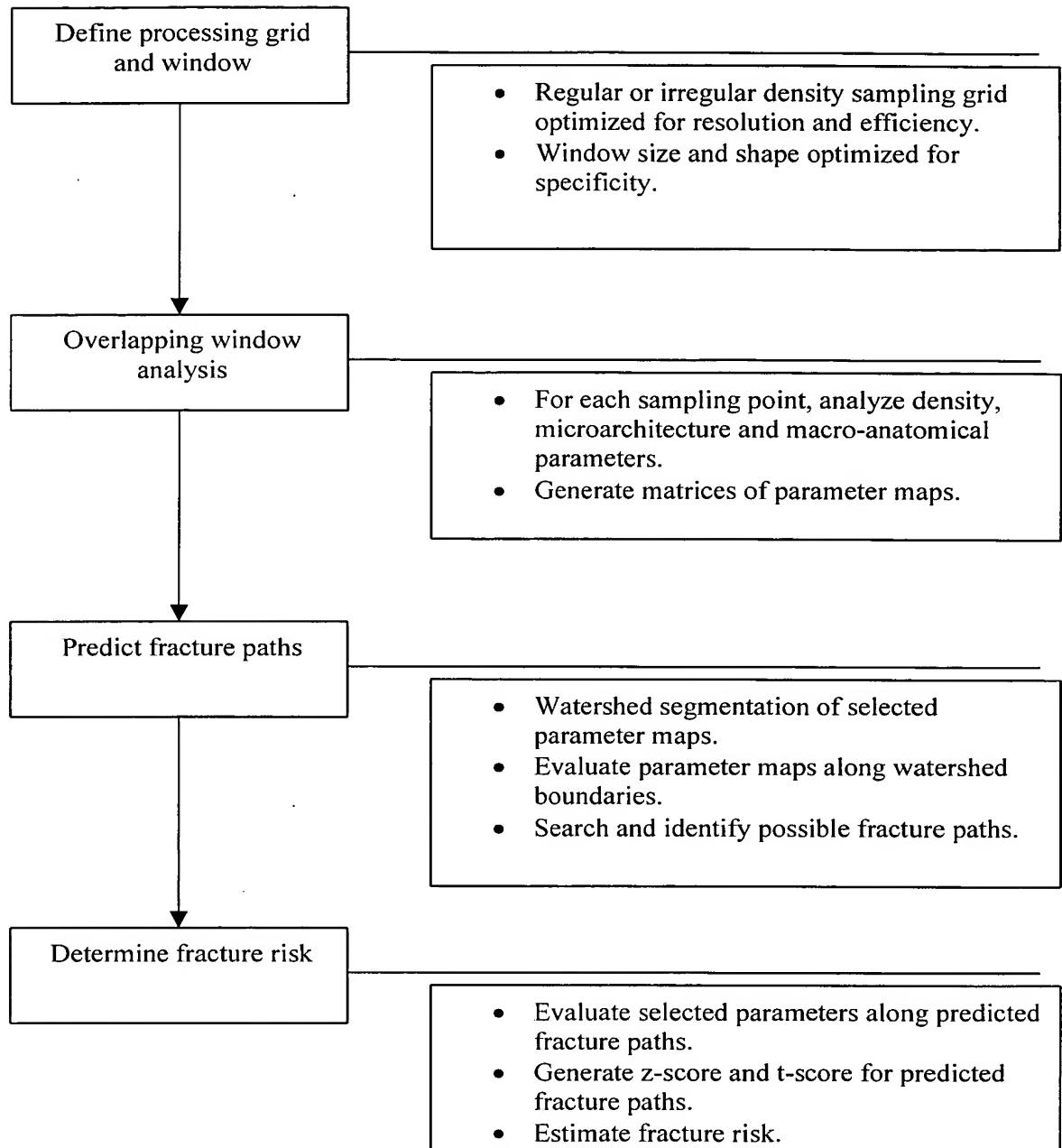
An example of a regular interval sampling field for microarchitecture (+) and a higher density sampling field for macro-anatomical features(*) on a femur radiograph.

FIG. 16



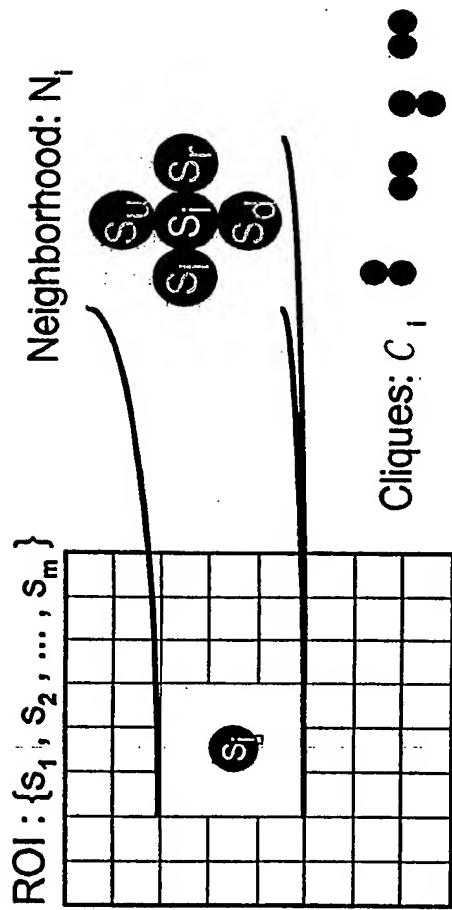
Watershed segmentation boundaries superimposed on a parameter map.
The two white lines are the actual fracture paths resulted from an in-vitro
mechanical loading test.

FIG. 17



Process to determine fracture risk using overlapping window processing and fracture paths prediction.

FIG. 18



$s_i: \{F_{1i}, F_{2i}, \dots, F_{ni}\} \rightarrow$ feature set at site s_i

Joint distribution of feature set given neighboring sets:

$$P(s_i \mid s_k, s_k \in ROI) = P(s_i \mid s_k, s_k \in N_i)$$

FIG. 19

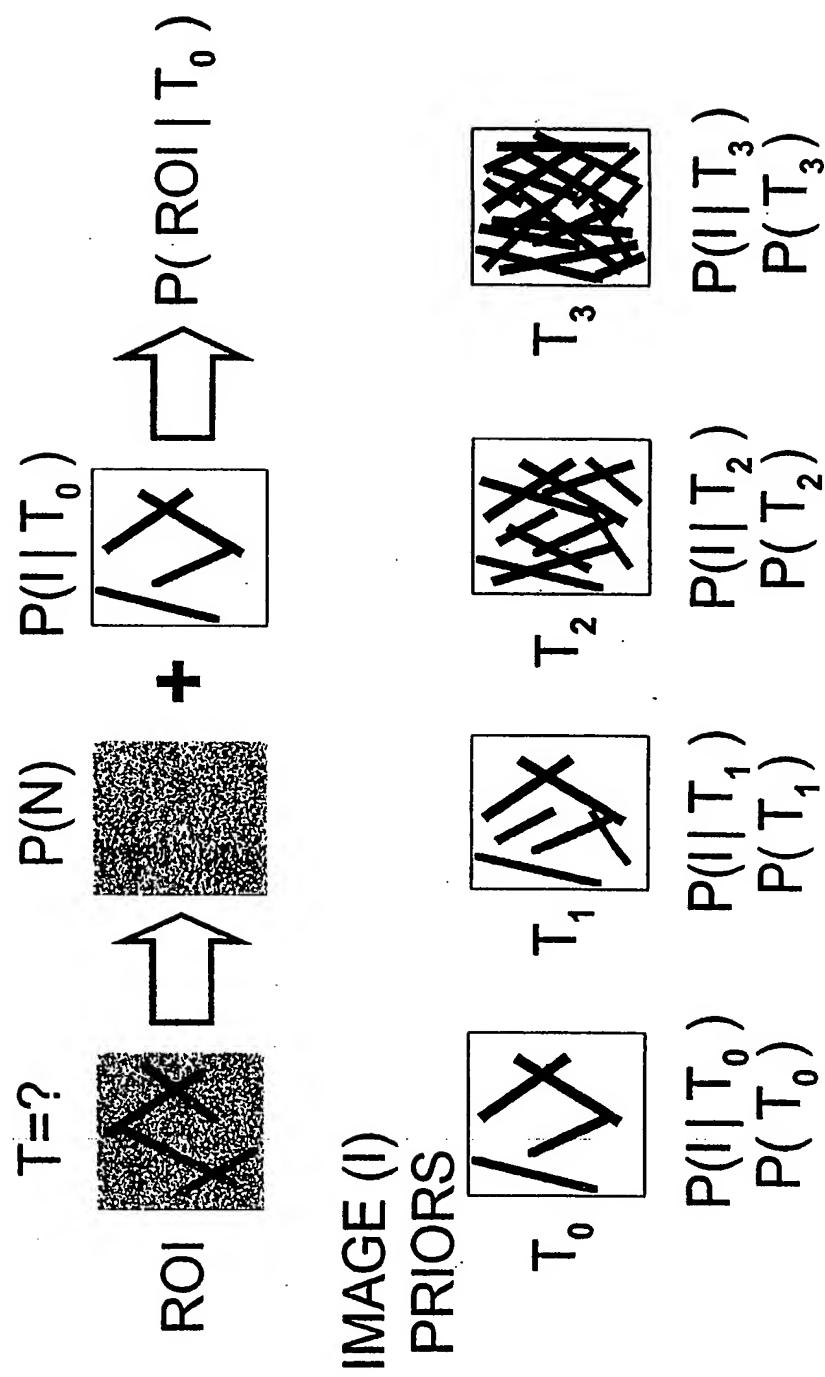


FIG. 20

A posteriori density distribution

$$P(T_i | \text{ROI}) = \frac{P(\text{ROI} | T_i) P(T_i)}{P(\text{ROI})}$$

\uparrow

$P(T_i | \text{ROI})$

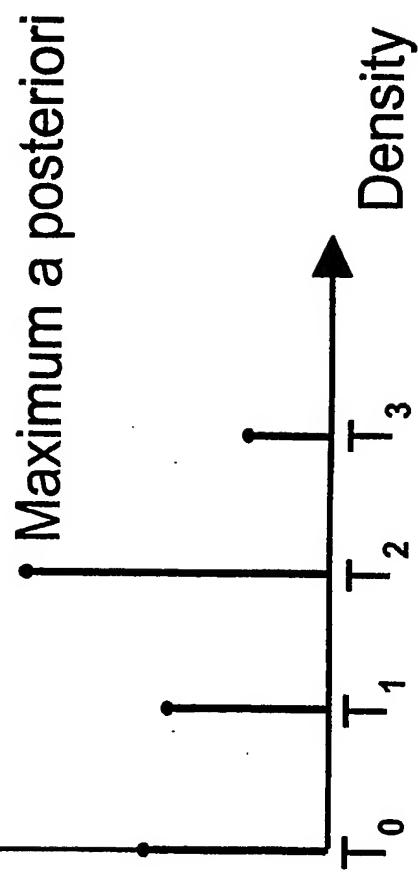


FIG. 21

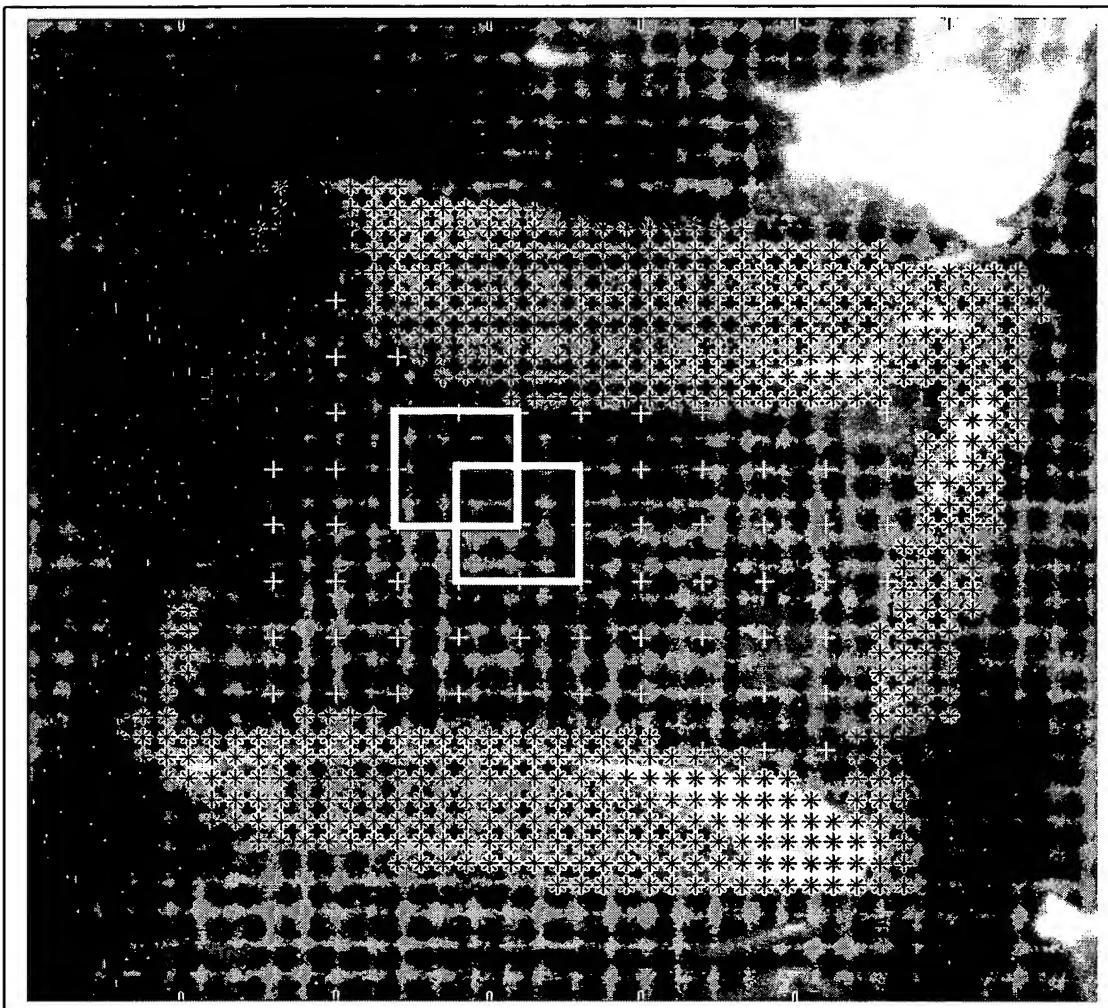


FIG. 22

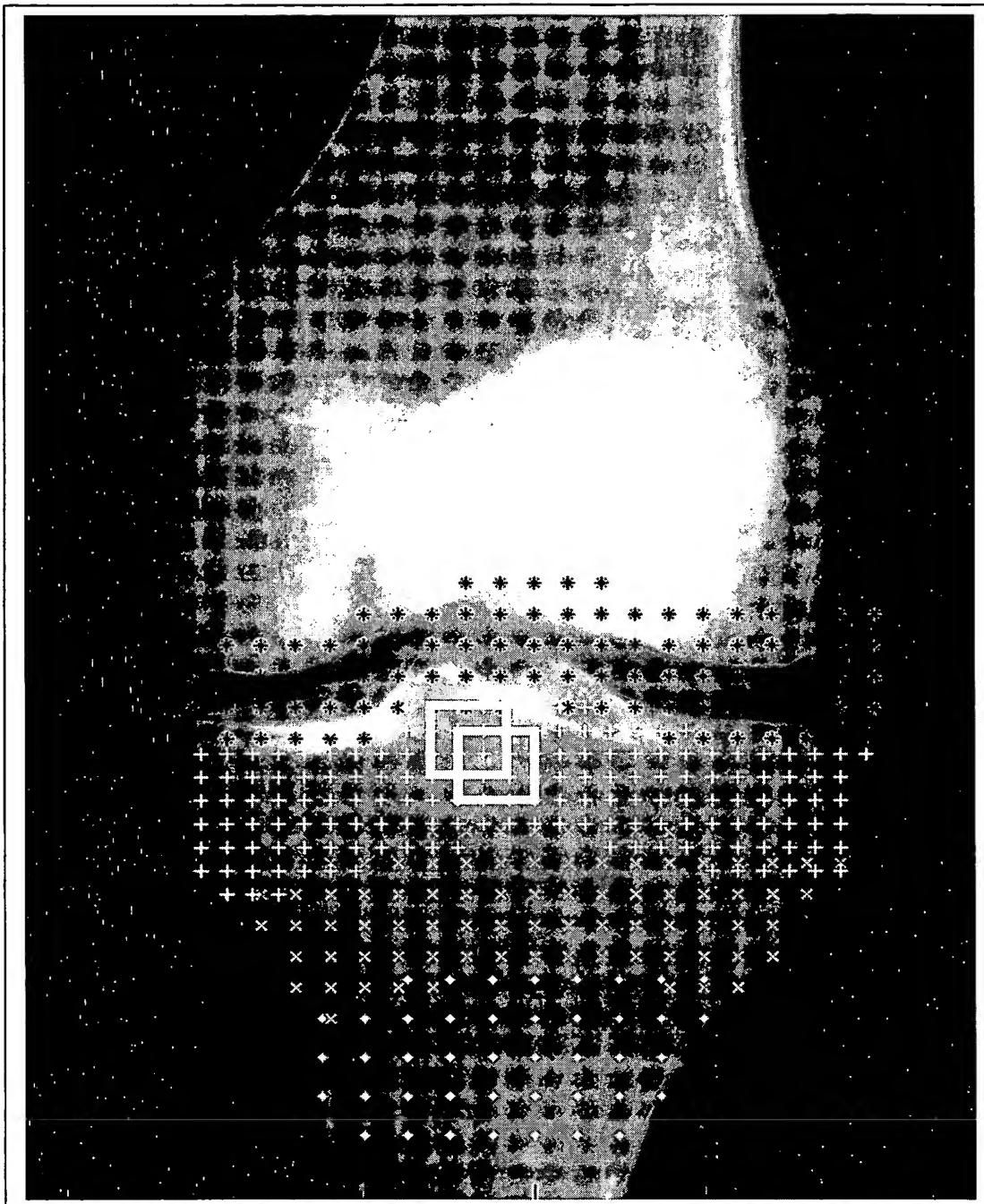
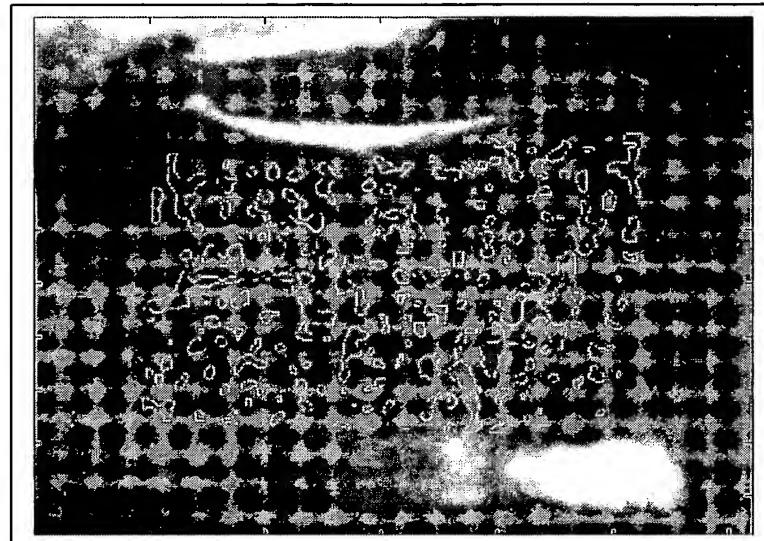
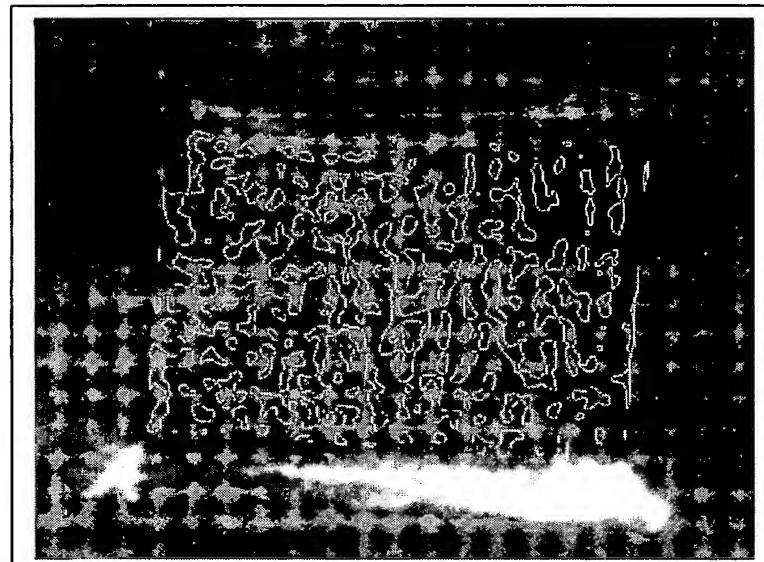


FIG. 23



(a)



(b)

FIG. 24

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